

WHAT IS CLAIMED IS:

1. A paper feeder comprising:

a first paper feed cassette in which to store a recording medium with a lock state that is selected from an unlocked state where the recording medium can be taken out therefrom and a locked state where the recording medium cannot be taken out therefrom;

a locking portion that brings the lock state of the first paper feed cassette into the unlocked state or the locked state;

a second paper feed cassette in which to store a recording medium, capable of selectively entering an unlocked state where the recording medium can be taken out therefrom and a locked state where the recording medium cannot be taken out therefrom; and

a lock state transmitting portion that transmits the lock state of the first paper feed cassette to the second paper feed cassette to bring the second paper feed cassette into the unlocked state or the locked state in accordance with the lock state of the first paper feed cassette.

2. The paper feeder according to claim 1,

wherein the lock state transmitting portion mechanically transmits the lock state of the first paper feed cassette to the second paper feed cassette.

3. The paper feeder according to claim 1,  
wherein the first paper feed cassette is provided  
integrally with the locking portion.

5 4. The paper feeder according to claim 1,  
wherein the second paper feed cassette includes an  
avoidance unit that allows the second paper feed cassette to  
avoid being brought into the locked state by the lock state  
transmitting portion.

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5. The paper feeder according to claim 1, further comprising:  
an apparatus fixing unit that fixes the paper feeder to  
a support base when the locking portion brings the lock state  
of the first paper feed cassette into the locked state.

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6. The paper feeder according to claim 1, further comprising:  
a first paper feed cassette unit including the first paper  
feed cassette; and

a second paper feed cassette unit including the second  
20 paper feed cassette;

wherein the first paper feed cassette unit and the second  
paper feed cassette unit are separated from each other, being  
removably attached to each other.

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7. The paper feeder according to claim 6, further comprising:  
a unit fixing unit that fixes the paper feed cassette  
unit to the second paper feed cassette unit when the locking  
portion is operated to bring the lock state of the first paper  
5 feed cassette into the locked state.
8. The paper feeder according to claim 7,  
wherein one of the first paper feed cassette unit and  
the second paper feed cassette unit is an image forming apparatus  
10 body of an image forming apparatus.
9. The paper feeder according to claim 2,  
wherein the lock state transmitting portion includes:  
rotatable lock gears provided for the first paper  
15 feed cassette and the second paper feed cassette  
respectively,  
lock portions movable in accordance with rotations  
of the lock gears respectively, and  
lock reception portions that receive the lock  
20 portions at the time of the locked state respectively;  
and  
the lock gears are connected with each other so that  
rotation is transmitted therebetween.
- 25 10. The paper feeder according to claim 9,

wherein the lock state transmitting portion includes a transmission gear that connects the lock gears with each other and transmits rotation therebetween.

5 11. The paper feeder according to claim 9,  
wherein at least one of the lock portions is removable.

12. The paper feeder according to claim 9,  
wherein one of the first paper feed cassette and the second  
10 paper feed cassette that is disposed closer to a support base  
for supporting the paper feeder than the other has a support  
base hook that projects toward the support base in accordance  
with rotations of the lock gear so as to engage with a paper  
feeder fixing portion provided in the support base.

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13. The paper feeder according to claim 9, further comprising:  
a first paper feed cassette unit including the first paper  
feed cassette;

a second paper feed cassette unit including the second  
20 paper feed cassette, the first paper feed cassette unit and  
the second paper feed cassette unit being separated from each  
other and removably attached to each other in a stack; and

a hook provided for at least one of the first paper feed  
cassette and the second paper feed cassette, the hook being  
25 movable in a direction of the stack in accordance with rotations

of the lock gear associated therewith;

wherein at least one of the first paper feed cassette unit and the second paper feed cassette unit is provided with an engagement portion engagable with the hook.

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14. The paper feeder according to claim 12,

wherein at least one of the first paper feed cassette unit and the second paper feed cassette unit includes a unit  
10 body having a top on which the engagement portion is formed.

15. The paper feeder according to claim 14,

wherein one of the first and second paper feed cassette units is an image forming apparatus body of an image forming  
15 apparatus.

16. The paper feeder according to claim 1,

wherein the lock state transmitting portion includes a belt that transmits the lock state of the first paper feed  
20 cassette to the second paper feed cassette.

17. The paper feeder according to claim 1,

wherein the lock state transmitting portion includes a link member that transmits the lock state of the first paper  
25 feed cassette to the second paper feed cassette.

18. The paper feeder according to claim 1,  
wherein the lock state transmitting portion includes a  
controller that controls the locked state and the unlocked state  
5 of the second paper feeder cassette.

19. The paper feeder according to claim 18,  
wherein the second paper feeder cassette includes a power  
lock portion that brings the second paper feeder into the locked  
10 state and the unlocked state; and  
the controller controls the power lock portion.

20. The paper feeder according to claim 1, further comprising:  
at least one more paper feed cassette in which to store  
15 a recording medium, capable of selectively entering an unlocked  
state where the recording medium can be taken out therefrom  
and a locked state where the recording medium cannot be taken  
out therefrom;

wherein the lock state transmitting portion further  
20 transmits the lock state of the first paper feed cassette to  
the at least one more paper feed cassette to bring the at least  
one more paper feed cassette into the unlocked state or the  
locked state in accordance with the lock state of the first  
paper feed cassette.

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21. A paper feeder comprising:

a plurality of paper feed containers in each of which  
to store a recording medium;

a fixing and unfixing portion that fixes a first paper  
5 feed container to a second paper feed container and unfixes  
the first paper feed container from the second paper feed  
container; and

a fixing and unfixing interlocking portion that fixes  
each one of rest of the plurality of paper feed containers to  
10 at least another one of rest of the plurality of paper feed  
containers in accordance with the fixing and unfixing portion  
fixing the first paper feed container to the second paper feed  
container and unfixes each one of rest of the plurality of paper  
feed containers from at least the another one of rest of the  
15 plurality of paper feed containers in accordance with the fixing  
and unfixing portion unfixing the first paper feed container  
to the second paper feed container.

22. A paper feeder comprising:

20 a first paper feed cassette in which to store a recording  
medium;

a first locking portion that locks and unlocks the first  
paper feed cassette;

a second paper feed cassette in which to store a recording  
25 medium; and

a second locking portion that locks and unlocks the second paper feed cassette;

wherein either one of the first and second locking portions locks either one of the first and second paper feed cassettes when the other one of the first and second locking portions locks the other one of the first and second paper cassettes and either one of the first and second locking portions unlocks either one of the first and second paper feed cassettes when the other one of the first and second locking portions unlocks the other one of the first and second paper feed cassettes.

23. An image forming apparatus comprising:

an image forming apparatus body; and

a paper feeder that feeds paper to the image forming apparatus body;

wherein the paper feeder includes

a first paper feed cassette in which to store a recording medium with a lock state that is selected from an unlocked state where the recording medium can be taken out therefrom and a locked state where the recording medium cannot be taken out therefrom,

a locking portion that brings the lock state of the first paper feed cassette into the unlocked state or the locked state,

a second paper feed cassette in which to store a recording medium, capable of selectively entering an



unlocked state where the recording medium can be taken out therefrom and a locked state where the recording medium cannot be taken out therefrom, and

5           a lock state transmitting portion that transmits the lock state of the first paper feed cassette to the second paper feed cassette to bring the second paper feed cassette into the unlocked state or the locked state in accordance with the lock state of the first paper feed cassette.

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